Remarks

The Office Action mailed October 17, 2006, and made final, has been carefully reviewed and the foregoing amendments have been made in consequence thereof.

In accordance with 37 C.F.R. § 1.136(a), a one month extension of time is submitted herewith to extend the due date of the response to the Office Action dated October 17, 2006 for the above-identified patent application from January 17, 2007 through and including February 19, 2007. February 17, 2007 is a Saturday and February 18, 2007 is a Sunday. In accordance with 37 C.F.R. § 1.17(a)(3), authorization to charge a deposit account in the amount of $120.00 to cover this extension of time request is also submitted herewith.

Entry of this amendment is proper under 37 CFR § 1.116 since the amendment: (a) places the application in condition for allowance for the reasons discussed herein; (b) does not raise any new issue requiring further search and/or consideration as the amendment relates to issues previously discussed throughout prosecution; (c) satisfies a requirement of form asserted in the Office Action; (d) does not present any additional claims without canceling a corresponding number of finally rejected claims; and (e) places the application in better form for appeal, should an appeal be necessary. The amendments herein are necessary and were not earlier presented because they are made in response to arguments raised in the Final Office Action. Entry of this Amendment is thus respectfully requested.

Claims 1-27, 30, 32-36, 38, 39, 42-47, 49 and 50 are now pending in this Application. Claims 1-14, 17-27, 29, 32-34, 38, 39, 42-47, 49 and 50 stand rejected. Claims 15, 16, 35 and 36 are allowed. Claim 30 is amended herein. No new matter has been added.

Page 27 of the Office Action indicates that Claims 15, 16, 35 and 36 are allowed. However, the Office Action Summary indicates that Claims 15, 16, 35 and 36 are objected to. Applicant respectfully requests the Examiner to clarify whether Claims 15, 16, 35 and 36 are allowed or objected to. Applicants greatly appreciate

Examiner's indication that Claims 15, 16, 35 and 36, at least, contain allowable subject matter.

The rejection of Claim 30 under 35 U.S.C. § 112, second paragraph, is respectfully traversed.

With respect to Claim 30, the Office Action asserts that the feature "the physical transceiver" in line 6 lacks sufficient antecedent basis. Claim 30, line 6, has been amended to recite "a physical transceiver." Accordingly, Applicants respectfully submit that Claim 30 meets the requirements of 35 U.S.C. § 112, second paragraph.

For the reasons set forth above, Applicants respectfully request that the Section 112 rejection of Claim 30 be withdrawn.

The rejection of Claims 1, 12, 14, 19, 21, 24, 25, 27, 38, 39, 42, 47 and 49 under 35 U.S.C. § 103(a) as being unpatentable over Kawase, et al., (U.S. Patent No. 5,631,896) (hereinafter referred to as "Kawase") in view of Lo (U.S. Patent No. 6,842,481) (hereinafter referred to as "Lo") is respectfully traversed.

Kawase describes a hitless path switching method without a bit loss. The hitless path switching apparatus is a receiving portion of a line terminal. Incoming line signals S1 and S11 arriving through a working path (51) and a protection path (61) are supplied to signal terminating circuits (53) and (63) through input ports (52) and (62).

The signal terminating circuits (53) and (63) receive the line signals S1 and S11. More specifically, the signal terminating circuits (53) and (63) first detect A1 and A2 bytes in an SOH information field (81) to recognize a top of a frame (80), then detect AUPTR 81b to find the top of byte J1 of the VC frame (82), which is pointed to by the H1 and H2 bytes.

The data stream of the VC frame including a B3 byte, or data stream of the STM-frame including a B2 bit outputted from the signal terminating circuits (53) and (63) are supplied to bit error detecting circuits (56) and (66) as signals S6 and S16. The bit error detecting circuits (56) and (66) individually detect a bit error by using a

BIP code and supply a correlation monitoring circuit (75) with the error detection results as control signals S7 and S17.

The correlation monitoring circuit (75) determines whether switching between the working path and the protection path should be carried out on the basis of the control signals S7, S17, S8 and S18, and supplies a switching circuit (71) with a switching control signal S21.

The switching circuit (71) is a hitless switching circuit capable of achieving switching within a bit interval, and selectively transmits through an output port (72) one of the line signals S4 and S14 from delay circuits (55) and (65) to a path (73) as a line signal S22.

The correlation monitoring circuit (75) performs switching considering both a failure and a bit error. If a failure is detected in the protection path, switching from the working path to the protection path is inhibited. If a failure is detected in the working path, but not in the protection path, switching is performed from the working path to the protection path. Notably, Kawase does not describe two cables, a primary cable and a secondary cable, and routing data to one or the other of the primary or secondary network cables.

Lo describes a physical layer transceiver (36) including a digital to analog physical layer transceiver portion (56) configured for generating analog network signals on a network medium (16) based on signals from a secondary media independent interface (54).

Claim 1 recites "an autonomous circuit enabling the routing of data to a primary or secondary network cable connected to primary and secondary nodes comprising . . . a first monitoring device comprising a physical layer transceiver for reporting link status of the primary network cable, wherein the link status of the primary network cable includes a notification of a fault within the primary network cable . . . a logic device for monitoring the link status reported by the first monitoring device . . . and a switching device for routing the data to one or the other of the primary or secondary network cables."

Neither Kawase nor Lo, considered alone or in combination, describes nor suggests an autonomous circuit enabling the routing of data to a primary or secondary network cable connected to primary and secondary nodes as recited in Claim 1. Specifically, neither Kawase nor Lo, considered alone or in combination, describes nor suggests an autonomous circuit enabling the routing of data to a primary or secondary network cable connected to primary and secondary nodes including: a first monitoring device including a physical layer transceiver for reporting link status of the primary network cable, wherein the link status of the primary network cable includes a notification of a fault within the primary network cable, a logic device for monitoring the link status reported by the first monitoring device, and a switching device for routing the data to one or the other of the primary or secondary network cables. Rather, in contrast to the present invention, Kawase describes analyzing incoming line signals S1 and S11 arriving through a working path (51) and a protection path (61) to determine whether a line signal S4 or S14 should be selectively transmitted through an output port (72) from the delay circuits (55) and (65) to a third path (73) as a line signal S22. Lo describes a physical layer transceiver including a digital analog physical layer transceiver portion configured for generating analog network signals on a network medium based on the signals from a secondary media independent interface. Accordingly, for at least the reasons set forth above, Claim 1 is submitted to be patentable over Kawase in view of Lo.

Claims 12, 14, 19, 21, 24, 25 and 27 depend from independent Claim 1. When the recitations of Claims 12, 14, 19, 21, 24, 25 and 27 are considered in combination with the recitations of Claim 1, Applicants submit that dependent Claims 12, 14, 19, 21, 24, 25 and 27 are patentable over Kawase in view of Lo.

Claim 38 recites "a method of administering a redundant cable system comprising: monitoring, with a first monitoring device comprising a first physical layer transceiver, an occurrence of a fault within a primary network cable...monitoring, with a second monitoring device comprising a second physical layer transceiver, an occurrence of a fault within a second network cable...and switching a data stream route from the primary network cable to the secondary network cable when the first monitoring device indicates a fault in the primary

network cable and the second monitoring device indicates no faults in the secondary network cable."

Kawase and Lo are described above.

Neither Kawase nor Lo, considered alone or in combination, describes nor suggests a method of administering a redundant cable system as recited in Claim 38. Specifically, neither Kawase nor Lo, considered alone or in combination, describes nor suggests a method of administering a redundant cable system including monitoring, with a first monitoring device having a first physical layer transceiver, an occurrence of a fault within a primary network cable...monitoring, with a second monitoring device having a second physical layer transceiver, an occurrence of a fault within a second network cable...and switching a data stream route from the primary network cable to the secondary network cable when the first monitoring device indicates a fault in the primary network cable and a second monitoring device indicates no faults in the secondary network cable. Rather, in contrast in the present invention, Kawase describes analyzing incoming line signals S1 and S11 arriving through a working path (51) and a protection path (61) to determine whether a line signal S4 or S14 should be selectively transmitted through an output port (72) from the delay circuits (55) and (65) to a third path (73) as a line signal S22. Lo describes a physical layer transceiver including a digital analog physical layer transceiver portion configured for generating analog network signals on a network medium based on the signals from a secondary media independent interface. Accordingly, for at least the reasons set forth above, Claim 38 is submitted to be patentable over Kawase in view of Lo.

Claims 39 and 42 depend from independent Claim 38. When the recitations of Claims 39 and 42 are considered in combination with the recitations of Claim 38, Applicants submit that dependent Claims 39 and 42 likewise are patentable over Kawase in view of Lo.

Claim 47 recites "a method of creating a cable redundancy comprising: monitoring a fault in a primary network cable with a first physical layer transceiver (PHY)...and switching data traveling along the primary network cable to a secondary

network cable when a fault is detected in the primary network cable, wherein a link status output on the first PHY indicates a status of the primary network cable."

Kawase and Lo are described above.

Neither Kawase nor Lo, considered alone or in combination, describes nor suggests a method of creating a cable redundancy as recited in Claim 47. Specifically, neither Kawase nor Lo, considered alone or in combination, describes nor suggests a method of creating a cable redundancy including monitoring a fault in a primary network cable with a first physical layer transceiver and switching data traveling along the primary network cable to a secondary network cable when a fault is detected in the primary network cable, wherein a link status output on the first physical layer transceiver indicates a status of the primary network cable. Rather, in contrast to the present invention, Kawase describes analyzing incoming line signals S1 and S11 arriving through a working path (51) and a protection path (61) to determine whether a line signal S4 or S14 should be selectively transmitted through an output port (72) from the delay circuits (55) and (65) to a third path (73) as a line signal S22. Lo describes a physical layer transceiver including a digital analog physical layer transceiver portion configured for generating analog network signals on a network medium based on the signals from a secondary media independent interface. Accordingly, for at least the reasons set forth above, Claim 47 is submitted to be patentable over Kawase in view of Lo.

Claim 49 depends from independent Claim 47. When the recitations of Claim 49 are considered in combination with the recitations of Claim 47, Applicants submit that dependent Claim 47 likewise is patentable over Kawase in view of Lo.

For at least the reasons set forth above, Applicants respectfully request that the Section 103 rejection of Claims 1, 12, 14, 19, 21, 24, 25, 27, 38, 39, 42, 47 and 49 be withdrawn.

The rejection of Claim 50 under 35 U.S.C. § 103(a) as being unpatentable over Kawase in view of Lo, as applied to Claim 1 above, and further in view of Stener (U.S. Patent No. 6,690,650) (hereinafter referred to as "Stener") is respectfully traversed.

Claim 50 depends from Claim 1 which is recited above. Kawase and Lo are described above.

Stener describes a network repeater (10) configured for transmitting data packets between remote network nodes (12). The repeater (10) is a fully integrated multiple port repeater. In particular, the repeater (10) includes four repeater ports (14) that transmit and receive data packets with the respective remote network nodes (12). Each repeater port (14) establishes a link with the corresponding network node (12). Each repeater port (14) automatically configures to the speed of the remote network nodes (12) using negotiation protocols.

The repeater (10) also includes a repeater core (22) and a repeater core (24). The repeater cores (22) and (24) are configured for sending and receiving data packets between selected repeater ports according to the respective data rates. In particular, the repeater (10) includes a port switching and steering interface (26) configured for selectively connecting each network port (14) to one of the repeater cores (22) or (24) based on the corresponding link speed of the repeater port (14).

None of Kawase, Lo nor Stener, considered alone or in combination, describes nor suggests an autonomous circuit enabling the routing of data to a primary or secondary network cable connected to primary and secondary nodes as recited in Claim 1. Specifically, none of Kawase, Lo nor Stener, considered alone or in combination, describes nor suggests an autonomous circuit enabling the routing of data to a primary or secondary network cable connected to primary and secondary nodes including: a first monitoring device including a physical layer transceiver for reporting link status of the primary network cable, wherein the link status of the primary network cable includes a notification of a fault within the primary network cable, a logic device for monitoring the link status reported by the first monitoring device, and a switching device for routing the data to one or the other of the primary or secondary network cables. Rather, in contrast to the present invention, Kawase describes analyzing incoming line signals S1 and S11 arriving through a working path (51) and a protection path (61) to determine whether a line signal S4 or S14 should be selectively transmitted through an output port (72) from the delay circuits (55) and (65) to a third path (73) as a line signal S22. Lo describes a physical layer transceiver including a digital analog physical layer transceiver portion configured for generating

analog network signals on a network medium based on the signals from a secondary media independent interface. Stener describes a repeater including a port switching and steering interface configured for selectively connecting each network port to one of the repeater cores based on the corresponding link speed of the repeater port. Accordingly, for at least the reasons set forth above, Claim 1 is submitted to be patentable over Kawase in view of Lo and further in view of Stener.

Claim 50 depends from independent Claim 1. When the recitations of Claim 50 are considered in combination with the recitations of Claim 1, Applicants submit that dependent Claim 50 likewise is patentable over Kawase in view of Lo and further in view of Stener.

For at least the reasons set forth above, Applicants respectfully request that the Section 103 rejection of Claim 50 be withdrawn.

The rejection of Claims 30 and 32-34 under 35 U.S.C. § 103(a) as being unpatentable over Kawase in view of Stener and further in view of Lo is respectfully traversed.

Kawase, Stener and Lo are described above.

Claim 30 recites "a method of creating a cable redundancy comprising: monitoring a link status of a primary network cable with a first monitoring device, wherein the link status of the primary network cable includes a notification of a fault within the primary network cable, wherein the first monitoring device translates a message based on a speed of a network when a physical layer transceiver does not monitor the link status of the primary network cable...and switching data traveling along the primary network cable to a secondary network cable when a fault is detected in the primary network cable."

None of Kawase, Stener nor Lo, considered alone or in combination, describes nor suggests a method of creating a cable redundancy as recited in Claim 30. Specifically, none of Kawase, Stener nor Lo, considered alone or in combination, describes nor suggests a method of creating a cable redundancy including monitoring a link status of a primary network cable with a first monitoring device, wherein the link status of the primary network cable includes a notification of a fault within the

primary network cable, wherein the first monitoring device translates a message based on a speed of a network when a physical layer transceiver does not monitor the link status of the primary network cable, and switching data traveling along the primary network cable to a secondary network cable when a fault is detected in the primary network cable. Rather, in contrast to the present invention, Kawase describes analyzing incoming line signals S1 and S11 arriving through a working path (51) and a protection path (61) to determine whether a line signal S4 or S14 should be selectively transmitted through an output port (72) from the delay circuits (55) and (65) to a third path (73) as a line signal S22. Lo describes a physical layer transceiver including a digital analog physical layer transceiver portion configured for generating analog network signals on a network medium based on the signals from a secondary media independent interface. Stener describes a repeater including a port switching and steering interface configured for selectively connecting each network port to one of the repeater cores based on the corresponding link speed of the repeater port.

Accordingly, for at least the reasons set forth above, Claim 30 is submitted to be patentable over Kawase in view of Stener and further in view of Lo.

Claims 32-34 depend from independent Claim 30. When the recitations of Claims 32-34 are considered in combination with the recitations of Claim 30, Applicants submit that dependent Claims 32-34 likewise are patentable over Kawase in view of Stener and further in view of Lo.

For at least the reasons set forth above, Applicants respectfully request that the Section 103 rejection of Claims 30 and 32-34 be withdrawn.

The rejection of Claims 2-7, 9, 10, 17, 18, 23 and 26 under 35 U.S.C. § 103(a) as being unpatentable over Kawase in view of Lo, as applied to Claim 1, and further in view of Bray (U.S. Patent No. 6,618,392) (hereinafter referred to as "Bray") is respectfully traversed.

Claim 1 is recited above. Kawase and Lo are described above.

Bray describes using one or more repeaters in a star topology with each repeater having several ports. A data packet received at one port is retransmitted to all other ports of the repeater. Each repeater, in turn, restores timing and amplitude

degradation of data packets received at one port and retransmits the packets to all other ports.

None of Kawase, Lo nor Bray, considered alone or in combination, describes nor suggests an autonomous circuit enabling the routing of data to a primary or secondary network cable connected to primary and secondary nodes as recited in Claim 1. Specifically, none of Kawase, Lo nor Bray, considered alone or in combination, describes nor suggests an autonomous circuit enabling the routing of data to a primary or secondary network cable connected to primary and secondary nodes including a first monitoring device including a physical layer transceiver for reporting link status of the primary network cable, wherein the link status of the primary network cable includes the notification of a fault within the primary network cable, a logic device for monitoring the link status reported by the first monitoring device, and a switching device for routing the data to one or the other of the primary or secondary network cables. Rather, in contrast to the present invention, Kawase describes analyzing incoming line signals S1 and S11 arriving through a working path (51) and a protection path (61) to determine whether a line signal S4 or S14 should be selectively transmitted through an output port (72) from the delay circuits (55) and (65) to a third path (73) as a line signal S22. Lo describes a physical layer transceiver including a digital analog physical layer transceiver portion configured for generating analog network signals on a network medium based on the signals from a secondary media independent interface. Bray describes a network structure using one or more repeaters in a star topology with each repeater having several ports. The data packet received at one port is retransmitted to all other ports of the repeater. Accordingly, for at least the reasons set forth above, Claim 1 is submitted to be patentable over Kawase in view of Lo and further in view of Bray.

Claims 2-7, 9, 10, 17, 18, 23 and 26 depend from independent Claim 1. When the recitations of Claims 2-7, 9, 10, 17, 18, 23 and 26 are considered in combination with the recitations of Claim 1, Applicants submit that dependent Claims 2-7, 9, 10, 17, 18, 23 and 26 likewise are patentable over Kawase in view of Lo and further in view of Bray.

For at least the reasons set forth above, Applicants respectfully request that the Section 103(a) rejection of Claims 2-7, 9, 10, 17, 18, 23 and 26 be withdrawn.

The rejections of Claims 8 and 11 under 35 U.S.C. § 103(a) as being unpatentable over Kawase in view of Lo and Bray, as applied to Claim 3, and further in view of Takeguchi (U.S. Patent No. 6,735,171) (hereinafter referred to as "Takeguchi") is respectfully traversed.

Claim 1 is recited above. Kawase, Lo and Bray are described above.

Takeguchi describes an SDH transmission system (100) usually making a line which connects an SDH equipment (200) with an SDH equipment (300) having a redundant configuration for enhancing the reliability of communication by providing a protection line (500) besides a work line (400) and once a fault such as a disconnection of line occurs on the work line (400), the communication line is readily switched to the protection line (500) so as to avoid the disconnection of communication caused by the line fault. The switching between the above mentioned work line (400) and the protection line (500) is controlled with APS (automatic protection system).

For realizing the APS control function, the SDH equipment (200), (300), at least comprises a work unit (201W), (301W) which performs a transmission processing (bi-directional) through the work line (400) and a protection unit (201P), (301P) which functions as a back-up for this work line (201W), (301W) and performs a transmission processing (bi-directional) through the protection line (500). The SDH equipment (200), (300) further includes an APS control firmware (202), (302) which performs a switching control between these units (201W), (201P), (301W), (301P). The same signals are transmitted through the work downline (400A) (or the upline 400B) and the protection downline (500A) (or the upline 500B) respectively and, in a usual operation, the reception terminal selectively receives either one of signals (e.g., the signal having a better quality).

None of Kawase, Lo, Bray nor Takeguchi, considered alone or in combination, describes nor suggests an autonomous circuit enabling the routing of data to a primary or secondary network cable connected to primary and secondary nodes as recited in Claim 1. Specifically, none of Kawase, Lo, Bray nor Takeguchi, considered alone or in combination, describes nor suggests an autonomous circuit enabling the routing of data to a primary or secondary network cable connected to

primary and secondary nodes including a first monitoring device including a physical layer transceiver for reporting link status of the primary network cable, wherein the link status of the primary network cable includes a notification of a fault within the primary network cable, a logic device for monitoring the link status reported by the first monitoring device, and a switching device for routing the data to one or the other of the primary or secondary network cables. Rather, in contrast to the present invention, Kawase describes analyzing incoming line signals S1 and S11 arriving through a working path (51) and a protection path (61) to determine whether a line signal S4 or S14 should be selectively transmitted through an output port (72) from the delay circuits (55) and (65) to a third path (73) as a line signal S22. Lo describes a physical layer transceiver including a digital analog physical layer transceiver portion configured for generating analog network signals on a network medium based on the signals from a secondary media independent interface. Bray describes a network structure using one or more repeaters in a star trophology which each repeater having several ports. The data packet received at one port is retransmitted to all other ports of the repeater. Takeguchi describes a reception terminal selectively receiving either one of signals based on signal quality. Accordingly, for at least the reasons set forth above, Claim 1 is submitted to be patentable over Kawase in view of Lo and Bray, and further in view of Takeguchi.

Claims 8 and 11 depend from independent Claim 1. When recitations of Claims 8 and 11 are considered in combination with the recitations of Claim 1, Applicants submit that dependent Claims 8 and 11 likewise are patentable over Kawase in view of Lo and Bray, and further in view of Takeguchi.

For at least the reasons set forth above, Applicants respectfully request that the Section 103(a) rejection of Claims 8 and 11 be withdrawn.

The rejection of Claim 20 under 35 U.C.S. § 103(a) as being unpatentable over Kawase in view of Lo, as applied to Claim 1, and further in view of Burke et al. (U.S. Patent No. 6,233,235) (hereinafter referred to as "Burke") is respectfully traversed.

Claim 20 depends from Claim 1 which is recited above. Kawase and Lo are described above.

Burke describes a communication system (10) using an IP multi cast protocol or a multi cast backbone using a collection of internet routers which support IP multi casting for audio and video across the internet. The communication system (10) includes a head end (12) as a base communications unit which is connected to subscribers (14) by a distribution network (20) and a combiner (22). The headend (12) is typically located at the cable company headquarters for sending and receiving telephone calls to and from the home subscribers (14).

The combiner (22) is a cable television converter/combiner which also has an input for video broadcast sources (24). The headend also includes a transceiver matrix (26) and cable modem termination systems (28), which are connected to the combiner (22) and controlled with an IP backbone controller (30).

A packet switched network 72 is coupled to the backbone (30) by a packet switch router, and, e.g., the internet (74) may be accessed via web servers. The IP data may be carried over a variety of networks such as asynchronous transfer mode, synchronous optical network, fiber distribution data interface, as well as 100 base-T Ethernet networks.

None of Kawase, Lo nor Burke, considered alone or in combination, describes nor suggests an autonomous circuit enabling the routing of data to a primary or secondary network cable connected to primary and secondary nodes as recited in Claim 1. Specifically, none of Kawase, Lo nor Burke, considered alone or in combination describes nor suggests an autonomous circuit enabling the routing of data to a primary or secondary network cable connected to primary and secondary nodes including a first monitoring device including a physical layer transceiver for reporting link status of the primary network cable, wherein the link status of the primary network cable includes a notification of a fault within the primary network cable, and logic device for monitoring the link status reported by first monitoring device, and a switching device for routing the data to one or the other of the primary or secondary network cables. Rather, in contrast to the present invention, Kawase describes analyzing incoming line signals S1 and S11 arriving through a working path (51) and a protection path (61) to determine whether a line signal S4 or S14 should be selectively transmitted through an output port (72) from the delay circuits (55) and (65) to a third path (73) as a line signal S22. Lo describes a physical layer transceiver

including a digital analog physical layer transceiver portion configured for generating analog network signals on a network medium based on the signals from a secondary media independent interface. Burke describes a packet switch network coupled to a backbone by a packet switch router. Accordingly, for at least the reasons set forth above, Claim 1 is submitted to be patentable over Kawase in view of Lo and further in view of Burke.

Claim 20 depends indirectly from independent Claim 1. When the recitations of Claim 20 are considered in combination with the recitations of Claim 1, Applicants submit that dependent Claim 20 likewise is patentable over Kawase in view of Lo and further in view of Burke.

For at least the reasons set forth above, Applicant's respectfully request that the Section103(a) rejection of Claim 20 be withdrawn.

The rejection of Claim 43 under 35 U.C.S. § 103(a) as being unpatentable over Kawase in view of Lo and further in view of Wang et al. (U.S. Patent No. 6,813.241) (hereinafter referred to as "Wang") is respectfully traversed.

Claim 43 depends from Claim 38 which is recited above. Kawase and Lo are described above.

Wang describes a line selection device (260) including a 2 x 2 switch (270) with an input terminal (272) providing the interface to the working data link (220) and a protection data link (255). The logic within the 2x2 switch (270) causes the working data link (220) to be switched to a long reach receiver (218) under normal operating conditions. Once a failure condition is detected by the long reach receiver (218), a triggering event causes a switch within the 2x2 switch (270) from the working data link (220) to the protection data link (255). The working data link (220) is directly coupled to a monitoring device (280), which in one embodiment comprises an optical receiver/monitor capable of determining when the working data link (220) has recovered from a failure. Since the working data link (220) is the preferred signaling pathway, reversion to working data link (220) is desired.

None of Kawase, Lo nor Wang, considered alone or in combination, describes nor suggests a method of administering a redundant cable system as recited in Claim

38. Specifically, none of Kawase, Lo nor Wang, considered alone or in combination, describes nor suggests a method of administering a redundant cable system including monitoring, with the first monitoring device, including a first physical layer transceiver, an occurrence of a fault within the primary network cable . . . monitoring, with a second monitoring device including a second physical layer transceiver, an occurrence of a fault within a second network cable . . . and switching a data stream route from the primary network cable to the secondary network cable when the first monitoring device indicates a fault in the primary network cable and the second monitoring device indicates no faults in the secondary network cable. Rather, in contrast to the present invention, Kawase describes analyzing incoming line signals S1 and S11 arriving through a working path (51) and a protection path (61) to determine whether a line signal S4 or S14 should be selectively transmitted through an output port (72) from the delay circuits (55) and (65) to a third path (73) as a line signal S22. Lo describes a physical layer transceiver including a digital analog physical layer transceiver portion configured for generating analog network signals on a network medium based on the signals from a secondary media independent interface. Wang describes that once a failure condition is detected by a long reach receiver, a triggering event causes a switch from the working data link to the protection data link. Accordingly, for at least the reasons set forth above, Claim 38 is submitted to be patentable over Kawase, in view of Lo and further in view of Wang.

Claim 43 depends from independent Claim 38. When the recitations of Claim 43 are considered in combination with the recitations of Claim 38, Applicants submit that dependent Claim 43 likewise is patentable over Kawase in view of Lo and further in view of Wang.

For at least the reasons set forth above, Applicants respectfully request that the Section 103 rejection of Claim 43 be withdrawn.

The rejection of Claim 44 under 35 U.S.C. § 103(a) as being unpatentable over Wang in view of Lo is respectfully traversed.

Claim 44 recites "a circuit enabling the routing of data to a primary or secondary network cable connected to primary and secondary nodes comprising: a first physical layer transceiver (PHY) for monitoring a link status of the primary

network cable, wherein the link status of the primary network cable includes a notification of a fault within the primary network cable...a complex programmable logic device (CPLD) for monitoring the link status reported by the first PHY...and a switch for routing the data to one or the other of the primary or secondary network cables."

Wang and Lo are described above.

Neither Wang nor Lo, considered alone or in combination, describes nor suggests a circuit enabling the routing of data to a primary or secondary network cable connected to primary and secondary nodes as are cited in Claim 44. Specifically, neither Wang nor Lo, considered alone or in combination, describes nor suggests a circuit enabling the routing of data to a primary or secondary network cable connected to primary and secondary nodes including a first physical layer transceiver for monitoring a link status of the primary network cable, wherein the link status of the primary network cable includes a notification of a fault within the primary network cable . . . a complex programmable logic device for monitoring a link status reported by the first physical layer transceiver . . . and a switch for routing the data to one or the other of the primary or secondary network cables. Rather, in contrast to the present invention, Wang describes that once a failure condition is detected by a long reach receiver, a triggering event causes a switch from a working data link to a production data link. The working data link is directly coupled to a monitoring device, which in one embodiment comprises an optical receiver/monitor capable of determining when the working data link has recovered from the failure. Since the working data link is the preferred signaling pathway, reversion to the working data link is desired. Notably, Wang does not describe nor suggest a complex programmable logic device for monitoring the link status reported by the first physical layer transceiver. Lo describes a physical layer transceiver including a digital analog physical layer transceiver portion configured for generating analog network signals on a network medium based on signals from a secondary media independent interface. Accordingly, for at least the reasons set forth above, Claim 44 is submitted to be patentable over Wang in view of Lo.

For at least the reasons set forth above, Applicants respectfully request that the Section103(a) rejection of Claim 44 be withdrawn.

The rejection of Claim 45 under 35 U.S.C. § 103(a) as being unpatentable over Wang in view of Lo, as applied to Claim 44, and further in view of Bray is respectfully traversed.

Claim 45 depends from Claim 44 which is recited above. Wang, Lo and Bray are described above.

None of Wang, Lo nor Bray, considered alone or in combination, describes or suggests a circuit enabling the routing of data to a primary or secondary network cable connected to primary and secondary nodes as recited in Claim 44. Specifically, none of Wang, Lo nor Bray, considered alone or in combination, describes nor suggests a circuit enabling the routing of data to a primary or secondary network cable connected to primary and secondary nodes including a complex programmable logic device monitoring a link status reported by a first physical layer transceiver. Rather, in contrast to the present invention, Wang describes that once a failure condition is detected by a long reach receiver, a triggering event causes a switch from a working data link to a protection data link. The working data link is directly coupled to a monitoring device, which in one embodiment comprises an optical receiver/monitor capable of determining when the working and data link has recovered from the failure. Notably, Wang does not describe a complex programmable logic device for monitoring the link status reported by the first physical layer transceiver. Lo describes a physical layer transceiver including a digital analog physical layer transceiver portion configured for generating analog network signals on the network medium based on the signals from the secondary media independent interface. Bray describes a network structure that uses one or more repeaters in a star topology, with each repeater having several ports. Accordingly, for at least the reasons set forth above, Claim 44 is submitted to be patentable over Wang in view of Lo and further in view of Bray.

Claim 45 depends from independent Claim 44. When the recitations of Claim 45 are considered in combination with the recitations of Claim 44, Applicants submit that dependent Claim 45 likewise is patentable over Wang in view of Lo and further in view of Bray.

For at least the reasons set forth above, Applicants respectfully request that the Section 103(a) rejection of Claim 45 be withdrawn.

The rejection of Claim 46 under 35 U.S.C. § 103(a) as being unpatentable over Wang in view of Lo, as applied to Claim 44, and further in view of Kawase is respectfully traversed.

Claim 46 depends from Claim 44 which is recited above. Wang, Lo and Kawase are described above.

None of Wang, Lo nor Kawase, considered alone or in combination, describes nor suggests a circuit enabling the routing of data to a primary or secondary network cable connected to primary and secondary nodes as recited in Claim 44. Specifically, none of Wang, Lo nor Kawase, considered alone or in combination, describes nor suggests providing a circuit enabling the routing of data to a primary or secondary network cable connected to primary and secondary nodes including a complex programmable logic device for mounting a link status reported by a first physical layer transceiver. Rather, in contrast to the present invention, Wang describes that once a failure condition is detected by a long reach receiver, a triggering event causes a switch from a working data link to a protection data link. The working data link is directly coupled to a monitoring device which in one embodiment comprises an optical receiver/ monitor capable of determining when the working data link has recovered from the failure. Notably, Wang does not describe a complex programmable logic device for monitoring a link status reported by a first physical layer transceiver. Lo describes a physical layer transceiver including a digital analog physical layer transceiver portion configured for generating analog network signals on the network medium based on signals from a secondary media independent interface. Kawase describes analyzing incoming line signals S1 and S11 arriving through a working path (51) and a protection path (61) to determine whether a line signal S4 or S14 should be selectively transmitted through an output port (72) from the delay circuits (55) and (65) to a third path (73) as a line signal S22. Accordingly, for at least the reasons set forth above, Claim 44 is submitted to be patentable over Wang in view of Lo and further in view of Kawase.

When the recitations of Claim 46 are considered in the combination with the recitations of Claim 44, Applicants submit that dependent Claim 46 likewise is patentable over Wang in view of Lo and further in view of Kawase.

For at least the reasons set forth above, Applicants respectfully request that the Section 103 rejection of Claim 46 be withdrawn.

Applicants respectfully submit that the Section 103 rejection of the presently pending Claims is improper. As is well established, obviousness cannot be established by combining the teachings of the cited art to produce the claimed invention, absent some teaching, suggestion, or incentives supporting the combination. None of Kawase, Lo, Wang, Takeguchi, Burke, Stener nor Bray, considered alone or in combination, describes nor suggests the claimed invention. Further, in contrast to the Examiner's assertion within the office action, Applicants respectfully submit that it would not be obvious to one skilled in the art to make any combination of Kawase, Lo, Takeguchi, Bray, Stener, Wang and Burke because there is no motivation to combine the references suggested in the art. Additionally, the Examiner has not pointed to any prior art that teaches or suggests to combine the disclosures, other than Applicant's own teaching.

As the Federal Circuit has recognized, obviousness is not established merely by combining references having different individual elements of pending claims. Ex parte Levengood, 28 U.S.P.Q.2d 1300 (Bd. Pat. App. & Inter. 1993). MPEP 2143.01. Rather, there must be some suggestion, outside of Applicants' disclosure, in the prior art to combine such references, and a reasonable expectation of success must be both found in the prior art, and not based on Applicants' disclosure. In re Vaeck, 20 U.S.P.Q.2d 1436 (Fed. Cir. 1991). In the present case, neither a suggestion or motivation to combine the prior art disclosures, nor any reasonable expectation of success has been shown.

Further, it is impermissible to use the claimed invention as an instruction manual or "template" to piece together the teachings of the cited art so that the claimed invention is rendered obvious. Specifically, one cannot use hindsight reconstruction to pick and choose among isolated disclosures in the art to deprecate the claimed invention. It is also impermissible to pick and choose from any one

reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art. The present Section 103 rejections are based on a combination of teachings selected from multiple patents in an attempt to arrive at the claimed invention. Because there is no teaching or suggestion in the cited art for the combination, this Section 103 rejection appears to be based on a hindsight reconstruction in which isolated disclosures have been picked and chosen in an attempt to deprecate the present invention. Of course, such a combination is impermissible, and for these reasons, Applicants request that the Section 103 rejections of the Claims be withdrawn.

In view of the foregoing remarks, this application is believed to be in condition for allowance. Reconsideration and favorable action is respectfully solicited.

Respectfully Submitted,

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